Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
Advanced Television Systems	)	
and Their Impact upon the	)	MM Docket No. 87-268
Existing Television Broadcast	)	
Service	)	

To: The Commission

COMMENTS OF THE GRASS VALLEY GROUP, INC.

The Grass Valley Group, Inc. offers the following comments and proposals in response to the SECOND REPORT AND ORDER/FURTHER NOTICE OF PROPOSED RULE MAKING adopted by the Commission on April 9, 1992.

1. INTRODUCTION AND QUALIFICATION

1.1 The Grass Valley Group, Inc. is a professional equipment manufacturer, active in the television broadcast and production industry for over 30 years. Grass Valley Group is a leading supplier of production switchers, television special effects, graphics, editing, routing, and distribution products to television broadcast, program production and post production facilities throughout the world.

1.2 Grass Valley Group firmly supports the efforts to introduce Advanced Television Service to the United States, and has recently become an active participant of a number of Advisory Committee Working Parties. In the matter of requirements for simulcasting addressed below, we believe we comment as a party experienced in the relevant technology and in the operational aspects discussed.

2. SIMULCASTING

2.1 Paragraph #62 of the subject RO/FNPRM seeks comment on a proposal to require 50% simulcasting seven years after an ATV standard becomes effective, and 100% simulcasting after nine years. We believe that this proposal offers an excellent means to achieve the two stated objectives; namely to add impetus to the penetration of ATV receivers, and to allow ATV pioneers the flexibility to explore the creative potential of ATV.

2.2 Paragraph 64 suggests that simulcast requirements permit program differences (within the same nominal program) that accommodate the special nature of ATV. We believe that such programming represents an investment on the part of the program maker that is totally supportive of the transition to ATV, and should be encouraged.

2.3 Paragraph 65 seeks comment on the tentative conclusion that upconverted NTSC programming transmitted on the ATV channel should be simulcast programming. We support this conclusion for the reasons stated by the Commission. For the sake of completeness we suggest that such a ruling should also apply to conversions from other composite video formats (PAL, SECAM).

2.4 Paragraph 65 also seeks comment on the types of programming that should be excluded from the simulcast requirement during the phase-in period. The paragraph states that "... we would nonetheless expect programming on the ATV channel to take full advantage of the technical capabilities of the ATV mode," and seeks comment on "the types of programming which would take such full advantage of the ATV mode."

2.5 We believe that the phrase "take full advantage of the technical capabilities of the ATV mode" is unduly restrictive and, if strictly interpreted, would impose

an unnecessary and inappropriate economic burden on program makers and broadcasters desiring to make an early entry into ATV programming. The ATV systems proposed are intended to satisfy the needs of television broadcasting in the United States for several decades. They are based upon the capabilities of production and display equipment that can be built today, but that will be very expensive for many years to come.

2.6 The ATV standards proposed support approximately one million pixels, requiring a display device with approximately one thousand line resolution for "full advantage." It is our belief that, for many years, the majority of ATV receivers available will not meet this requirement. Further, typical display sizes for domestic receivers, and typical viewing distances in a domestic environment, will not require this degree of resolution.

2.7 At the other end of the transmission chain, true HDTV production equipment is very expensive, and at this time does not offer all of the operational features and flexibility considered normal in equipment for conventional television. We believe that significant advances in semiconductor technology are required before it will be possible to offer true HDTV production equipment at prices affordable by the majority of broadcasters, production facilities, and post production facilities. On the other hand, digital 525 line component equipment is rapidly becoming competitive with NTSC equipment, and can be constructed or adapted to operate with an aspect ratio of 16:9. This technology could be viewed by a large proportion of the industry as an affordable replacement for existing NTSC equipment.

2.8 525 line should not be equated with NTSC. More than half the information content of a good 525 line component signal is either discarded or rendered unusable by the NTSC encode/decode process. The image is further degraded by encode/decode artifacts, and by the transmission artifacts suffered by analog

signals. The ATV system will be able to convey all of the information content of a 525 line component signal, and upconversion to the ATV standard will ensure that the display will not suffer from a visible line structure. Many demonstrations have shown that good 525 line component signals, when upconverted and displayed on an ATV monitor, are accepted by viewers as "excellent HDTV." These signals are not true HDTV, but they certainly meet the criterion of an enhanced viewing experience. We suggest that 525 line component programs, produced with a 16:9 aspect ratio and upconverted to the selected ATV standard, will provide an excellent match to the capabilities of a typical domestic ATV receiver, and will result in images in the home that amply justify the investment in an ATV receiver.

2.9 Specifically we recommend that the types of programming permitted for ATV specific programming during the phase-in period for simulcasting should include material upconverted from 525 lines, provided such material meets the following conditions:

The material is produced with an aspect ratio of 16:9, and

The material is originated in the component domain, and does not bear the footprint of NTSC or any other composite system.

2.10 We believe that such a ruling would offer the following advantages:

It would permit program producers and broadcasters to experiment with the creative potential of ATV with a reasonable level of investment.

Some existing 525-line equipment, such as cameras, could be converted or adapted for 16:9 component operation, or used with anamorphic lenses.

If 16:9 525-line component productions are permitted as ATV specific programming, many facilities who cannot afford immediate conversion to

true HDTV equipment are likely to install component equipment in their next round of equipment purchases.

We believe this approach will add momentum to the transition to ATV by making ATV specific production accessible to a much greater part of the television community.

When the phase-in period is over, the fact that many facilities will have installed component equipment will minimize the amount of simulcast material that has 4:3 aspect ratio, and which bears the NTSC footprint.

2.11 In summary, we believe that 16:9 525-line component should be regarded as an enabling technology in the transition to ATV. Permitting such programming as ATV specific programming should minimize the chance of market failure through "excess inertia."

3. PATENT LICENSING AND RELATED ISSUES

3.1 Paragraph 69 states that the Commission "... will condition that selection on the proponent's commitment to licensing of relevant patents."

3.2 We welcome this statement, but would suggest that particular attention be made to the interests of small and medium sized businesses. Such businesses have traditionally played a major role in the development of television and the advancement of the "state of the art." We believe that this will also be the case with ATV, provided such companies are not disadvantaged by licensing requirements.

3.3 A fixed sum licensing fee might be held to be "reasonable and nondiscriminatory," but unless the sum were truly nominal this would be to the disadvantage of small companies.

3.4 Similarly, even if fees were low, complex licensing and reporting procedures might have little impact on a company with a large legal department, but could make the technology inaccessible to a small company.

3.5 We urge the Commission to facilitate the entry of small companies into the ATV market by ensuring simple and low cost licensing procedures.

Respectfully submitted,

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